Coucals, possibly other than the Andaman Coucal, have now been sighted at three widely separate locations in the islands. More sightings and other information are required to clarify whether the species is a vagrant or has colonized these islands. The Lesser Coucal is recorded, so far, from the Himalayan, north-eastern region and south-western regions of India, Bangladesh and south-eastern Asia, but not from the Islands in the Bay of Bengal. If this species is confirmed to be a resident of the archipelago it will add to the avifaunal diversity of the Islands and the geographic distribution of the species itself. The other possibility includes colour variation within the species of Andaman Coucal ranging from its more frequently encountered colour of beige body with chestnut brown wings to the darker versions as described in this note.

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14. SIGHTING OF STOLICZKA'S BUSHCHAT *SAXICOLA MACRORHYNCHUS* IN PUNE DISTRICT, MAHARASHTRA, WESTERN INDIA[1]

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Stoliczka's Bushchat *Saxicola macrorhynchus* (Family: Muscicapidae, Subfamily: Turdinae) is resident and rare locally, but not uncommon in some areas. It is confined to desert parts of Rajasthan and Kutch region of Gujarat. It occurs in sandy desert plains and scattered bushes. In this note I report sighting of this species from Pune district, Maharashtra, western India.

On December 22, 2004, a team of bird-watchers consisting of Advait Godbole, Parag Deshpande, Aditya Joshi, Hrishikesh Joshi and I, visited Varvand. This is a wetland surrounded by open, sparse scrub and stony wasteland, situated on the Pune-Solapur highway *c.* 60 km from Pune city. At 1500 hrs, we spotted a bird perched on a bush. The following distinguishing characters helped to identify the bird as Stoliczka's Bushchat: a distinct buffy-white supercilium, black bill, buffy underparts with white upper breast and throat, white patch on the inner greater coverts, pale rump and white outer tail feathers. In some of the photographs we took, there is an indication of a small white patch on the inner greater coverts, suggesting that this was a first winter male.

This constitutes the first record of the species from Pune district, *c.* 600 km south of its usual range. The closest records, by Krys Kazmierczak, of the species are from Velavadar National Park, Gujarat. Humayun Abdulali's CHECKLIST OF BIRDS OF MAHARASHTRA (1973, BNHS) does not list this species. This observation, therefore, is significant, but the reason for this southern dispersal of the species is still unknown.

ACKNOWLEDGEMENTS

I wish to express my sincere thanks to Krys Kazmierczak, Bill Harvey and Asad R. Rahmani for their guidance and comments.

15. STATUS OF MUGGER *CROCODYLUS PALUSTRIS* IN SIMILIPAL TIGER RESERVE, ORISSA, INDIA[1]

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Of the 21 species of crocodilians that are found in the warm subtropical and tropical regions of the world, three namely Gharial *Gavialis gangeticus*, the Saltwater or Estuarine Crocodile *Crocodylus porosus* and the Mugger *Crocodylus*

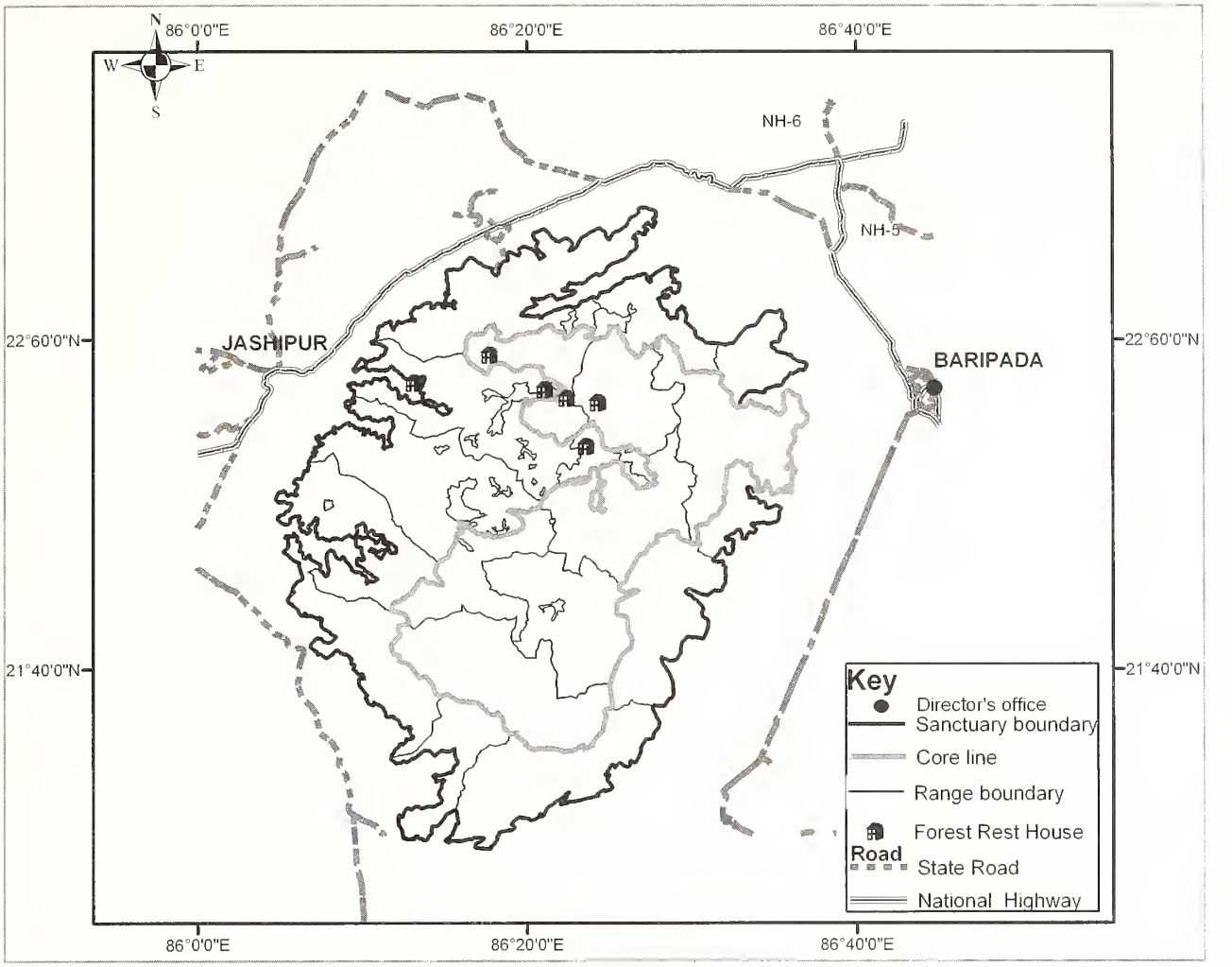

Fig. 1: Location map of the study area (Similipal Tiger Reserve)

palustris, occur in the Indian subcontinent (Singh 1999). All the three occur in the state of Orissa; the Gharial is found in the Mahanadi, the Saltwater Crocodile is found in Bhitarkanika Sanctuary and the Mugger is found in the river systems of the Similipal Tiger Reserve.

Results of a survey for the Mugger conducted in November-December 1979 indicate that the Mugger had virtually become extinct in the area of the Similipal Tiger Reserve (Anon. 1999). Although the reasons for extinction of the Mugger from the Similipal Tiger Reserve were not clear, Anon. (1999) cites adverse factors like (i) fishing using explosives and nylon nets, (ii) use of DDT and other insecticides with an intention to control malaria, (iii) fire on the river banks that serve as nesting sites, and (iv) natural effects of activities such as predation, and/or exhumation of nests by wild boars and monitor lizards.

In 1979, the Mugger Management Project was started in Similipal at Ramatirtha, near Jashipur, with the aim of maintaining a viable population of the Mugger in Similipal, conducting management-oriented research, and providing muggers for re-stocking elsewhere, under financial support from UNDP, FAO, Government of India and Government of Orissa. Of the initial stock of 150 young muggers brought from Tamil Nadu, six were retained for captive breeding at Ramatirtha. Over the years, 788 crocodiles have been released into the river systems of Similipal (Table 1). The present study reveals the status of the Mugger in the various river systems of Similipal Tiger Reserve.

Study area

Similipal is a densely forested hill-range in the heart of the district of Mayurbhanj in Orissa, lying close to the easternmost end of the Eastern Ghats. Located in the Mahanadian Biogeographical Region and within the biotic province of the Chhotanagpur Plateau, it spreads over an area of 2,750 sq. km. The whole of the Similipal hill-range falls under the Similipal Tiger Reserve (20° 17' - 22° 10' N and 85° 57' - 86° 47' E; Fig. 1). Because of the uniqueness of its flora,

Table 1: Release figure of the Mugger into the river systems of the Similipal Tiger Reserve

Year	Number released
1981	60
1985	18
1986	42
1987	39
1988	12
1989	25
1990	42
1991	82
1992	90
1994	32
1995	108
1996	70
1998	50
2000	89
2002	29
2003	-
Total	788

fauna, forests, landscape and tribes, Similipal was declared a Biosphere Reserve in 1994. Its highest mountain is the peak of Khairiburu, 1,168 m above msl. Similipal is the richest watershed in Orissa, giving rise to many perennial rivers like the Budhabalanga, Khadkei, Khairi, Bhandan, West Deo, Salandi, East Deo, Sanjo and Palpala.

Methodology

A survey of the Mugger in Similipal was conducted during January 24 - February 18, 1999, March 7 - 19, 2000, February 11 - 17, 2003 and March 9 - 16, 2004 to ascertain the status of the Mugger inside the Similipal Tiger Reserve (TR). For this purpose, the entire survey team was divided into two groups, namely Team A and Team B, and different river systems were allotted to these teams. They surveyed the river bank on foot. During the survey, direct sighting as well as indirect evidence such as tunnels, basking places, scute marks on the ground were taken into account. The different routes surveyed during the period are shown in Table 2. Body length was measured by ocular estimation during direct sighting. From indirect evidence, body length was measured from the tracks of the hind paw mark and also from the tail mark – body length is equal to approximately 14 times paw length and approximately 65 times the maximum distance between the two lines created because of the movement of the tail (Singh 2000).

The numbers counted in the rivers of West Deo, Khadkei, Budhabalanga, Khairi and East Deo are given in Table 3. The size/length-wise distribution of the Mugger as per the 2004 census is given in Table 4.

Table 2: Routes surveyed in the river systems of Similipal TR

Sl. No.	River system	Route
1	Budhabalanga	1) Budhabalanga village to Jambu bridge
		2) Jambu bridge to Barehipani fall head
		3) Barehipani fall head to Bhatunia
		4) Bhatunia to Majhigaon
2	East Deo	5) Sarua pool
3	Khairi	6) Jenabil to Ransa
		7) Ransa to Kabataghai
4	West Deo	8) Debasthali to Kandadhenu
		9) Kandadhenu to Jalchinda
		10) Patabil to Upper Baraha Kamuda (UBK)
		11) UBK to Manda Darah
5	Khadkei	12) Khadkei to Baunskhal
		13) Baunskhal to Soriopal
		14) Haldia down stream
		15) Panasia reservoir

Table 3: Number of Muggers sighted in the river systems of Similipal Tiger Reserve from 1999-2004

River systems	1999	2000	2003	2004
West Deo	34	58	30	42
East Deo	5	1	1	5
Khairi	17	26	15	20
Budhabalanga	8	10	6	9
Khadkei	7	2	0	7
Total	71	97	52	83

Table 4: Size/Length-wise Distribution of Muggers in the river systems of Similipal Tiger Reserve as per 2004 census

River systems	<1m	1-1.5 m	1.5-2.0 m	>2.0 m
West Deo	14	8	16	4
East Deo	1	4	0	0
Budhabalanga	0	2	5	2
Khairi	5	3	10	2
Khadkei	2	3	2	0
Total	22	20	33	8

The Mugger is the most adaptable of the three crocodilians and has been encountered up to 400 m in clear hill streams, sewage treatment ponds and cold deep rivers in the Himalayan foot hills (Whitaker and Andrews 2003). In the Similipal Tiger Reserve, they have been seen at an elevation of 850 m.

From the above results, it was found that Mugger sighting was higher in the West Deo compared to other river systems (Fig. 2), as it is confined to the core area of the Similipal Tiger Reserve where there is reduced anthropogenic

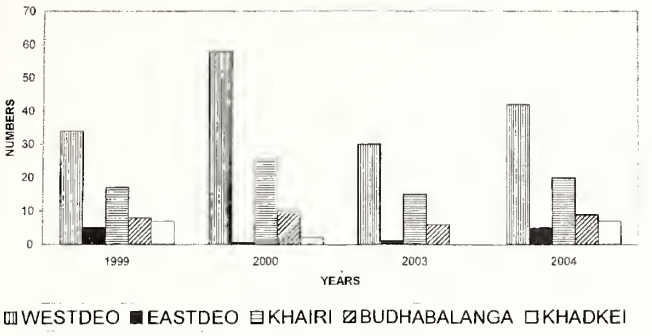

Fig. 2: Distribution of Muggers in the river systems of Similipal Tiger Reserve

disturbance, biotic interference, the presence of *darahs* (deep water area), and adequate basking sites. Though East Deo is also situated in the core area, there are fewer *darahs* and basking places. In Budhabalanga, the riverbank is steep and rocky, the availability of basking places lower, and biotic interference greater. In Khairi, the population of the Mugger is higher from Jenabil to Jadi *darah* in the Jenabil to Ransa route. Here, their number is lower in comparison to the West Deo as the river bed is rocky, providing a smaller area for the basking. But a detailed systematic study has to be made seasonally in order to study the seasonal behaviour and the ecology of the Mugger in the Similipal Tiger Reserve because the crocodile plays the vital ecological role of a master predator in the aquatic habitat where it lives (Whitaker and Andrews 2003).

Moreover, sightings were more in 2000 and 2004 as the census was carried out in March. During this time, the river bank area was more exposed and the temperature was 20° - 30° C, which was suitable for Mugger sighting. The release figure (Table 1) reveals that the population inside Similipal is not related to the release of the Mugger in the wild.

From Table 4 it is seen that during the 2004 census, 33 Muggers within a body length of 1.5 to 2.0 m, and 8 Muggers of more than 2 m body length indicate that 47% are adult. In Tamil Nadu, the wild mugger population is 465 with an adult population of 52% (Andrews 1999), and in Gujarat, the population is 492, with an adult population of 88% (Vijayakumar *et al.* 1990). In Similipal, the recent survey shows that the population is 83 with an adult population of 47%. However, the census shows that the mugger population is stable inside the Similipal Tiger Reserve.

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16. OBSERVATIONS ON BURROWS DUG BY MUGGER CROCODILES (*CROCODYLUS PALUSTRIS*) IN BUNDALA NATIONAL PARK, SRI LANKA[1]

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During a brief visit to Bundala National Park (Fig. 1), May 7-10, 2002, the authors caught, measured and sexed two mugger crocodiles in burrows. These burrows were measured and mapped, and temperatures recorded, both inside and outside the burrows, for 48 hrs. A total of 38 burrows were seen, which ranged from 3.05 m to over 6.0 m in length.